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ABSTRACT

The purpose of this study was to compare students enrolled in an alternative school with students in a traditional school on the bases of academic achievement and attitudes toward school subjects. The subjects were 33 sixth-grade students who attended an open education school modeled after the British infant school. The control group consisted of 33 sixth-grade students randomly selected from a group of 65 students attending a traditional school in the same district. The Stanford Achievement Test and the Survey of School Attitudes measured achievement and attitudes respectively. The research methodology utilized the nonequivalent control group pretest/posttest design. Multivariate analysis tested all variables. A covariant and a pretest mean score was also included in the analysis of data. The findings of this study were consistent with most past research, which indicates no significant differences exist between alternative and traditional students' performance in achievement except that males performed better in science. Findings on attitudes toward school subjects were consistent with prior research indicating that gender is a better predictor of attitude than participation in alternative school programs. For instance, females demonstrated a more positive attitude toward reading/language, mathematics, and social studies. (JAM)

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A COMPARISON OF ATTITUDE TOWARD SCHOOL SUBJECTS AND ACHIEVEMENT
IN AN ALTERNATIVE AND TRADITIONAL ELEMENTARY SCHOOL

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ABSTRACT

The purpose of this study was to compare students enrolled in an alternative school with students in a traditional school. Students were compared in the areas of academic achievement and attitude toward school subjects.

Subjects were 33 sixth-grade students who attended, by choice, an open education school modeled after the British Infant School. The control group consisted of 33 sixth-grade students randomly selected from a group of 65 students attending a traditional school in the same school district.

Research methodology utilized the non-equivalent control group pretest/posttest design. Data obtained from the Stanford Achievement Test gave the measure of achievement. The Survey of School Attitudes measured students' attitudes toward school subjects. Multivariate analysis of variance was utilized to test all variables. A covariant, a pretest mean score, was also included in the analysis of achievement data.

The analysis showed no significant differences in academic achievement in the areas of reading, language, math, science, and social studies between students enrolled in alternative and traditional school programs. One significant difference was found when all males and females were compared. Males performed at a higher level in science than females. There was no significant interaction found when program and gender were considered.

The data concerning attitude toward school subjects indicated no significant differences between the two groups. Significant differences between all males and females were identified with females demonstrating a more positive attitude toward reading/language, mathematics, and social studies. No significant interaction was found when program and gender were considered.

The findings of this study are consistent with most past research which indicates no significant differences exist between alternative and traditional student's performance in achievement. Findings on attitude toward school subjects were also consistent with research indicating that gender is a better predictor of attitude rather than participation in alternative school programs.

Introduction

There have always been alternatives to traditional public schools. These alternatives range from private schools, religious schools, "free" schools, to no school at all. The public school systems of the United States are now in the second decade of public alternative educational programs to the more traditional school curricula.

During the past decade, the alternative school concept has emerged as a major movement in American education. An alternative school has been defined as: "Any school that provides alternative learning experiences to those provided by conventional schools within its community and that is available by choice to every family within its community at no extra cost" (Smith, 1974, p. 14).

Alternative schools have been used successfully to assist in desegregation of urban schools, used to reduce school absenteeism and increase parental involvement (Barr, 1981). Lieberman and Griffin (1977) found the decision making involved in the alternative schools stimulated more participation on the part of the community than was provided with traditional schools. The alternative school movement, with some limitations, can and has served as a change agent.

As alternative schools have continued to grow across the country, they have fallen into a number of broad types. They have utilized a variety of learning models, open education, individualized instruction, experiential learning and behavior modification (Barr, 1981).

Alternative schools can focus on: instructional approaches, curriculum, special clients, special resources or facilities, and administration and organization.

Smith, Barr, and Burke (1976) identified the following three criteria that they felt were applicable to public alternative schools: students attend by choice, the school or program is responsive to unmet local needs, and the student body reflect the racial and socioeconomic mix of the community.

With the great diversity of the types of programs that alternative schools offer, the ability to adequately evaluate programs has presented many questions. How effective are alternative schools in the area of student cognitive achievement? How effective are alternative schools in the development of student attitudes toward school?

Alternative schools have not produced a great body of systematic evaluation. Just as no two alternative schools are alike, no two evaluations have been the same. "The task of evaluating innovative educational programs is certainly not a new problem, but the wide diversity of alternative schools has rendered the problem especially difficult" (Barr et al., 1977, p. 6).

Research on alternative elementary and secondary schools, both public and nonpublic, indicate that where standard measures of achievement are applicable, alternative school students perform at least as well as their counterparts in traditional school programs. (Doob, 1977; Janssen, 1974; & Jennings and Nathan, 1977).

Although there has been substantial growth in the number of alternative schools throughout the nation, this growth is primarily in urban areas. Despite this growth, fewer than 5% of U.S. schoolchildren have had the opportunity to enroll and participate in such programs (Barr, 1981).

By evaluating alternative school programs, we may identify areas of strength that can contribute to the development of children. Schools will therefore be able to evaluate their own programs and decide if it would be beneficial to offer an alternative option to its students, teachers and parents. Research and evaluation of alternative programs are still limited in number (Gregory & Smith, 1982). The research does indicate that the alternative schools have produced students that are performing as well as students in traditional programs (Crandall, 1973; Duke & Muzio, 1978; Milburn, 1981; Raywid, 1985 and Reel, 1973). Before the question of how the alternative classroom affects children can be more fully answered, much additional research will have to be undertaken (Horwitz, 1979).

Barr (1981) stated that the alternative school may well offer the most promising area of development in all of public education. Care must be taken to evaluate and scrutinize alternatives so that they are not misused. The impact of the change in perspective of offering an option has yet to be determined.

The purpose of the study was to identify and describe possible systematic differences, if any, which may exist in (1) academic achievement and (2) attitudes toward school subjects between students enrolled in an alternative elementary school and students enrolled in a traditional school. The study also examined any relationship which might exist between gender and school program.

Research Design

This study utilized the non-equivalent control group pretest-posttest design (Campbell & Stanley, 1966).

The dependent variables include subtest and total scores produced on the Stanford Achievement Test, and the mean scores on the subtests of attitude toward school as measured by the Survey of School Attitudes. The independent variable was the type of school program, alternative and traditional.

Population and Sample

The students in this study came from two elementary schools in a large urban school district. The alternative school operates within the open educational philosophy, and is available by parental request to all parents in the school district. Students are bussed to the school from throughout the district. There are no entrance requirements. The traditional school was selected based on its size, the approximate same socioeconomic distribution, and its adherence to a traditional organization.

The sample for this study consisted of 33 sixth-grade alternative school students and 33 sixth-grade traditional school students. Students from the alternative school were represented by 17 females and 16 males. Participation in the alternative school consisted of 17 students who had attended for all six years, all 33 students had participated in the program for two years or more. Students from the traditional school were first stratified according to sex and then randomly selected from a total group of 65 sixth-grade students.

An equal number of 17 females and 16 males were selected. The racial balance was approximately equal although no attempt was made to achieve this result.

The Stanford Achievement Test was administered to all students in the school district. The intermediate level Form E was used to obtain scale scores for measuring the academic achievement of all students. The Survey of School Attitudes was used to measure student reactions to four major areas of the school curriculum: reading/language; mathematics; science; and social studies. The Intermediate level was administered by classroom teachers who had been instructed by the researcher.

The Survey of School Attitudes was administered by the regular classroom teachers on the day preceding the administration of the Stanford Achievement Tests. All tests were scored by the researcher. Scores from the state's Basic Skills Assessment Program test administered to all fifth-grade students in the spring of 1986 were obtained from school records. A composite mean score for each student was used as a covariate in the analysis of the data.

Statistics

Multivariate analysis of variance (MANOVA) was the basic statistical procedure used to determine if any systematic differences existed between the two groups in the study. A covariant, a composite mean score of the Basic Skills Assessment Program test, was used in the analysis of achievement data. The adjusted mean scores for five subtests and a total subtest mean of the Stanford Achievement Test were compared for the two groups according to program, by male and female, and by an interaction of program and gender.

The adjusted mean scores for four areas of attitude toward school subjects were measured by the Survey of School Attitudes. The two groups were compared by program, by male and female, and by an interaction of program and gender. The .05 level of significance was used to test all hypotheses.

Results and Discussion

The first question concerning differences in academic achievement between the alternative and traditional students found no significant differences between the two groups in the areas of reading, language, math, science, social studies, and total subjects (Table 1). Males were found to be significantly different from females only on one achievement subtest, science (Table 2). No significant interaction in achievement was found when program and gender were considered (Table 3). This is consistent with studies concerning alternative school programs by Barr et al. (1977) and Janssen (1974). They found students in alternative schools to be learning at a rate consistent with traditional students. This finding is also supported by Doob (1977), Jennings and Nathan (1977) and Smith et al. (1981).

Attitude toward school subjects was not found to be significantly different for alternative and traditional students (Table 4). Differences were found when gender was considered (Table 5). These findings are consistent with research by Beck (1977) and Haladyna and Thomas (1979). Females had a more positive attitude than males in attitude toward reading/language, mathematics, and social studies.

No significant interaction was found in attitude when program and gender were considered (Table 6). This indicates that interest in school subjects is a factor of gender rather than school program.

In conclusion, the findings of this study indicate that participation in an alternative school program does not hinder academic achievement. These results support past research regarding alternative open schools in that students generally perform as well as students in the traditional school program (Barr et al., 1977; Dobb, 1977; and Smith et al., 1981).

This study also supports the research concerning attitude toward school subjects in that differences exist due to gender rather than enrollment in a school program (Beck, 1977; Haladyna & Thomas, 1979; Hogue, 1981; Klaff & Docherty, 1975, and Neal, Gill & Tismer, 1970).

Educators who favor a less structured environment will be encouraged with these findings. Should school districts wish to consider this type alternative program, they will find the results of this study supportive. Data presented here indicate no significant differences exist in either academic achievement or attitude toward school subjects between the two educational programs.

Table 1

Comparison of Adjusted Means for Achievement of Alternative and Traditional Students as Measured by the SAT

Achievement Area	Adjusted Means		<u>F</u>
	Alternative	Traditional	
Reading	90.45	90.09	.03
Language	81.81	83.77	1.02
Math	91.04	91.96	.15
Science	45.62	45.96	.08
Social Studies	46.73	46.27	.13
Total Subtests	355.66	358.20	.28

Table 2

Comparison of Adjusted Means for Achievement of Males and Females as Measured by the SAT

Achievement Area	Adjusted Means		<u>F</u>
	Males	Females	
Reading	89.14	91.34	.98
Language	81.67	84.04	1.24
Math	92.22	90.82	.35
Science	48.08	43.63	13.29*
Social Studies	47.64	45.42	2.85
Total Subtests	358.75	355.25	.52

* $p < .05$

Table 3

Comparison of Adjusted Means for Achievement of Alternative and Traditional Students Grouped According to Program and Gender as Measured by the SAT

Subject Area	ADJUSTED MEANS				<u>F</u>
	Alternative		Traditional		
	Male (N = 16)	Female (N = 17)	Male (N = 16)	Female (N = 17)	
Reading	89.32	91.52	88.96	91.16	.60
Language	80.59	82.96	82.75	85.12	.00
Math	91.76	90.36	92.68	91.18	.18
Science	47.91	43.46	48.25	43.80	2.15
Social Studies	47.89	45.65	47.41	45.19	.23
Total Subtests	357.56	353.96	360.00	356.50	.01

Table 4

Comparison of Adjusted Means for Attitude Toward School Subjects of Alternative and Traditional Students as Measured by the SSA

Attitudinal Area	Adjusted Means		<u>F</u>
	Alternative	Traditional	
Reading/Language	22.85	22.25	.269
Math	20.70	22.60	1.889
Science	22.40	23.00	.317
Social Studies	23.79	23.33	.126

Table 5

Comparison of Adjusted Means for Attitude Toward School Subjects of Males and Females as Measured by the SSA

Subject Area	Adjusted Means		<u>F</u>
	Males	Females	
Reading/Language	19.85	25.09	20.13*
Math	20.09	23.12	4.74*
Science	23.41	22.13	1.63
Social Studies	22.16	24.88	4.53*

* $p < .05$

Table 6

Comparison of Adjusted Means for Attitude Toward School Subjects of Alternative and Traditional Students Grouped According to Program and Gender as Measured by the SSA

Subject Area	ADJUSTED MEANS				F
	Alternative		Traditional		
	Male (N = 16)	Female (N = 17)	Male (N = 16)	Female (N = 17)	
Reading/Language	20.15	25.39	19.55	24.79	.02
Math	19.14	22.17	21.04	24.07	.01
Science	23.11	21.73	23.71	22.33	.88
Social Studies	22.39	25.11	21.93	24.65	.09

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